

GCSE

Factorizing + Manipulating Surds

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1. (a) Factorize $16a^2 - 49b^2$ (2)
 (b) Factorize $6x^2 + 9x$ (2)
 (Marks-4)
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2. (a) Factorize $15m^2n - 10mn^2$ (2)
 (b) Factorize $9m^2 - 1$ (2)
 (Marks-4)
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3. (a) Factorize $9y^2 - 4$ (2)
 (b) Factorize $14a^3 + 21a^2$ (2)
 (Marks-4)
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4. (a) Factorize $\frac{9m^2 - 4n^2}{25}$ (2)
 (b) Factorize $4x^2 - 16$ (2)
 (Marks-4)
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5. (a) Factorize $\frac{49p^2 - 1}{64(7p - 1)}$ (2)
 (b) Factorize $18z^2 - 54$ (2)
 (Marks-4)
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6. (a) Simplify $\sqrt{18} + \sqrt{8}$ (2)
 (b) Rationalize the Denominator $\frac{3}{2 + \sqrt{5}}$ (2)
 (Marks-4)
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7. (a) Factorize $5a^2b - 15ab$ (2)
 (b) Simplify $\sqrt{12} \times \sqrt{3}$ (2)
 (Marks-4)
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8. (a) Simplify $(\sqrt{7} - \sqrt{2})(\sqrt{7} + \sqrt{2})$ (2)
 (b) Factorize $35z^2 + 21z$ (2)
 (Marks-4)

9. (a) Factorize $\frac{8x^2 + 12x}{4}$ (2)
 (b) write $\frac{7}{\sqrt{3} + 2}$ in form of $a\sqrt{3} + b$ (2)
 (Marks-4)
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10. (a) Factorize $\frac{18z - 54}{z^2 - 9}$ (2)
 (b) Simplify $\sqrt{45} + \sqrt{80} + (\sqrt{3})^2$ (2)
 (Marks-4)
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11. (a) Factorize $144p^2 - 121q^2$ (2)
 (b) Factorize $\frac{7n^2 - 21}{n^2 - 9}$ (2)
 (Marks-4)
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12. (a) Factorize $\frac{14a^3 + 21a^2}{7}$ (2)
 (b) Factorize $20y^3 - 45y$ (2)
 (Marks-4)
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13. (a) Factorize $25g^2 - 4h^2$ (2)
 (b) Factorize $49y^2 - 1$ (2)
 (Marks-4)
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14. (a) Simplify $\sqrt{32} + (\sqrt{7})^3$ (2)
 (b) Simplify $\frac{5}{\sqrt{2}}$ (2)
 (Marks-4)
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15. (a) Factorize $14p^2 - 56q^2$ (2)
 (b) Factorize $30m^2n + 10mn^2$ (2)
 (Marks-4)